	Application No.	Applicant(s)	
Notice of Allowability	09/539,026	VAN BUSKIRK ET AL.	
	Examiner	Art Unit	
	Hussein A. El-chanti	2157	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*
All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *11/14/2006*.

2. ☒ The allowed claim(s) is/are *3,5,7-12,23 and 25-41*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

      3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

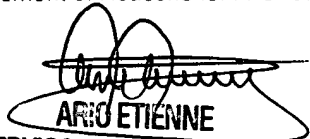   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

      1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____ .

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____ .

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)
1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____ .

ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100

EXAMINER'S AMENDMENT

1.   This action is responsive to communication received on Nov. 14, 2006.

2.   An examiner's amendment to the record appears below. Should the changes

and/or additions be unacceptable to applicant, an amendment may be filed as provided

by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be

submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview

with Mr. Maurice Pirio on Feb. 1, 2007.

3.   The application has been amended as follows:

1.   **(Cancelled)**

2.   **(Cancelled)**

3.   **(Currently Amended)** A computer-readable medium having computer-
executable instructions for communicating between an application and a multipoint
processing module adapted to mix, switch, and process media streams, the multipoint
processing module having at least one audio processor module for processing audio
data in a multipoint conference and at least one video processor module for processing
video data in a multipoint conference, the computer-executable instructions performing
the step of:
    exposing at least one application program interface by the multipoint processing
        module to receive a request from the application to command the
        multipoint processing module to modify a default operation of the
        multipoint processing module to alter at least one attribute of at least one
        of the audio processor module and video processor module, the
        application program interface for interfacing software components

wherein said at least one application program interface comprises an audio interface, the application using said audio interface to request the multipoint processing module to change a routing of at least one audio input stream towards at least one audio output stream and~~The computer-readable medium of claim 2~~ wherein the request is selected from the group consisting of:

> a command to retrieve an audio crossbar topology, the audio crossbar topology indicating how a set of audio input streams is being routed to a set of audio output streams;

> a command to change the audio crossbar topology to indicate to the multipoint processing module how the set of audio input streams should be routed to a set of audio output streams;

> a command to retrieve a value of an audio crossbar control parameter;

> a command to set a value of an audio crossbar control parameter;

> a command to retrieve a minimum value, a maximum value, and a default value for an audio crossbar control parameter;

> a command to retrieve a mixing capability and a transcoding capability of the audio crossbar; and

> a command to retrieve an audio level of a list of audio input streams.

4.   (Cancelled)

5.   (Currently Amdended) A computer-readable medium having computer-executable instructions for communicating between an application and a multipoint processing module adapted to mix, switch, and process media streams, the multipoint processing module having at least one audio processor module for processing audio data in a multipoint conference and at least one video processor module for processing video data in a multipoint conference, the computer-executable instructions performing the step of:

   exposing at least one application program interface by the multipoint processing module to receive a request from the application to command the multipoint processing module to modify a default operation of the multipoint processing module to alter at least one attribute of at least one of the audio processor module and video processor module, the application program interface for interfacing software components

wherein said at least one application program interface comprises a video interface, the application using said video interface to request the multipoint processing module to change a routing of at least one video input stream towards at least one video output stream and~~The computer-readable medium of claim 4~~

wherein the request is selected from the group consisting of:

   a command to retrieve a video crossbar topology, the video crossbar topology indicating how a set of video input streams is being routed to a set of video output streams based on a content of associated audio input streams;

   a command to change the video crossbar topology to indicate to the multipoint processing module how the set of video input streams should be routed to a set of video output streams based on a content of associated audio input streams;

   a command to retrieve a value of a video crossbar control parameter;

   a command to set a value of a video crossbar control parameter;

a command to retrieve a minimum value, a maximum value, and a default value

for a video crossbar control parameter;

a command to retrieve a mixing capability and a transcoding capability of the

video crossbar; and

a command to retrieve a video level of a list of video input streams.

6.   (Cancelled)

7.   (Currently Amended) A computer-readable medium having computer-executable instructions for communicating between an application and a multipoint processing module adapted to mix, switch, and process media streams, the multipoint processing module having at least one audio processor module for processing audio data in a multipoint conference and at least one video processor module for processing video data in a multipoint conference, the computer-executable instructions performing the step of:

exposing at least one application program interface by the multipoint processing

module to receive a request from the application to command the

multipoint processing module to modify a default operation of the

multipoint processing module to alter at least one attribute of at least one

of the audio processor module and video processor module, the

application program interface for interfacing software components

wherein said at least one application program interface further comprises a video interface, the application using said video interface to request the multipoint processing module to change a routing of at least one video input stream towards at least one video output stream and ~~The computer-readable medium of claim 6~~

wherein the request to route at least one audio input stream is selected from the group

consisting of:

a command to retrieve an audio crossbar topology, the audio crossbar topology indicating how a set of audio input streams is being routed to a set of audio output streams;

a command to change the audio crossbar topology to indicate to the multipoint processing module how the set of audio input streams should be routed to a set of audio output streams;

a command to retrieve a value of an audio crossbar control parameter;

a command to set a value of an audio crossbar control parameter;

a command to retrieve a minimum value, a maximum value, and a default value for an audio crossbar control parameter;

a command to retrieve a mixing capability and a transcoding capability of the audio crossbar; and

a command to retrieve an audio level of a list of audio input streams; and

the request to route at least one video input stream is selected from the group consisting of:

a command to retrieve a video crossbar topology, the video crossbar topology indicating how a set of video input streams is being routed to a set of video output streams based on a content of associated audio input streams;

a command to change the video crossbar topology to indicate to the multipoint processing module how the set of video input streams should be routed to a set of video output streams based on a content of associated audio input streams;

a command to retrieve a value of a video crossbar control parameter;

a command to set a value of a video crossbar control parameter;

a command to retrieve a minimum value, a maximum value, and a default value for a video crossbar control parameter;

a command to retrieve a mixing capability and a transcoding capability of the
video crossbar; and

a command to retrieve a video level of a list of video input streams.

8.   **(Currently Amended)** The method of claim 7 wherein said at least one
application program interface further comprises a format control interface, the
application using said format control interface to retrieve and set an audio format and a
video format, the format control interface comprising:

a command to retrieve a preferred audio and video format for a conference;

a command to set the preferred audio and video format for the conference;

a command to retrieve a format structure and configuration capability structure
pair of a conference, the format structure and configuration capability
structure pair describing an audio and video format supported by the
conference;

a command to retrieve a number of audio and video format structure and
configuration capability structure pairs that are available in a conference;

a command to reorder a list of preferred audio formats; and

a command to reorder a list of preferred video formats.

13-22. (Cancelled)

23.   **(Currently Amended)** A multipoint processing accelerator apparatus for
transmitting audio and video data over a plurality of channels in a multipoint conference
being controlled by an application, the application controlling the apparatus by an
application program interface of the apparatus, the apparatus comprising:

at least one hardware module having a default operation for applying signal
processing operations to at least one of the audio and video data; and

a minidriver, said minidriver communicating with the application through at least

one property set to do one of receiving a command to modify the default

operation of the at least one hardware module and sending a command to

the application

wherein the at least one property set comprises an audio topology property set and~~The~~

~~apparatus according to claim 22~~

wherein the audio topology property set comprises:

a property to do one of updating an audio crossbar content and retrieving an

audio crossbar content;

a property to retrieve mixing and transcoding capabilities of an audio crossbar;

a property to do one of setting a periodicity of an interrupt service routine and

getting a periodicity of an interrupt service routine;

a property to do one of setting a maximum number of mixed input signals and

getting a maximum number of mixed input signals;

a property to do one of enabling silence detection and disabling silence

detection;

a property to do one of enabling automatic gain control and disabling automatic

gain control; and

a property to retrieve a value of an audio level of a list of audio input streams.

24.   (Cancelled)

25.   (Currently Amended) A multipoint processing accelerator apparatus for

transmitting audio and video data over a plurality of channels in a multipoint conference

being controlled by an application, the application controlling the apparatus by an

application program interface of the apparatus, the apparatus comprising:

at least one hardware module having a default operation for applying signal

processing operations to at least one of the audio and video data; and

> a minidriver, said minidriver communicating with the application through at least
>
> one property set to do one of receiving a command to modify the default
>
> operation of the at least one hardware module and sending a command to
>
> the application

wherein the at least one property set comprises a video topology property set and~~The apparatus according to claim 24~~

wherein the video topology property set comprises:

> a property to do one of updating a video crossbar content and retrieving a video
>
> crossbar content;
>
> a property to retrieve picture composition capabilities of the video crossbar;
>
> a property to do one of setting a periodicity of an interrupt service routine and
>
> getting a periodicity of an interrupt service routine;
>
> a property to do one of setting a time to evaluate whether a speaker is continuing
>
> to speak and getting a time to evaluate whether a speaker is continuing to
>
> speak;
>
> a property to do one of setting a second time during which a speaker and a video
>
> switching process can not be taken over by a second speaker and getting
>
> a second time during which a speaker and a video switching process can
>
> not be taken over by a second speaker; and
>
> a property to do one of setting a third time and getting a third time, the third time
>
> being the time when a switch is made and when a fast update request is
>
> sent to the speaker's system.

26.   (Currently Amended) The apparatus according to claim 25~~1~~ wherein the at least one property set comprises a decoder property set.

28.   (Currently Amended) The apparatus according to claim 25~~1~~ wherein the at least one property set comprises a video encoder send property set.

30. **(Currently Amended)** The apparatus according to claim 25~~4~~ wherein the at least one property set comprises a stream topology property set.

32. **(Currently Amended)** The apparatus according to claim 25~~4~~ wherein the at least one property set comprises a video encoder property set.

34. **(Currently Amended)** The apparatus according to claim 25~~4~~ wherein the at least one property set comprises a network statistics property set.

36. **(Currently Amended)** The apparatus according to claim 25~~4~~ wherein the at least one property set comprises a bandwidth property set.

38. **(Currently Amended)** The apparatus according to claim 25~~4~~ wherein the at least one property set comprises a frame rate property set.

40. **(Currently Amended)** The apparatus according to claim 25~~4~~ wherein the at least one property set comprises a RTP control property set.

42-54. (Cancelled)

4. Claims 3, 5, 7-12, 23 and 25-41 are allowed.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hussein A. El-chanti whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hussein El-chanti

Feb. 5, 2007

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